

Oregon Historical Inventory Data Becomes Digital

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What is SHPO

- State Historic Preservation Office
- Part of a national preservation partnership led by the National Park Service (NPS).
- Under terms of the National Historic Preservation Act SHPO is delegated certain powers and duties.
- Their task is to manage and administer programs for the protection of the state's significant historic and prehistoric resources.

Current Data

- Hard copy Production version maps.
- Features hand drawn on maps of various scales and conditions.
- 23+ Years of data collecting.
- ~ 18,000 Inventories / Surveys.
- > 45,000 Site forms.

Initial Inquiry

- Scan original documents
 - To save a valuable source of information.
 - Images could then be reproduced and shared easily.

Recommendation

- Once documents are scanned images could be geo-referenced.
- Data could be extracted from images via heads-up-digitizing to create a GIS theme.
- GIS data could then be shared with others, as well as analyzed or leveraged against other data.

Proposal

- Phased approach.
 - At the end of each phase there would be a usable product.
 - **Perform Inventory.**
 - **Scan documents.**
 - **Rectify geo-reference scanned images.**
 - **Digitize information from images.**

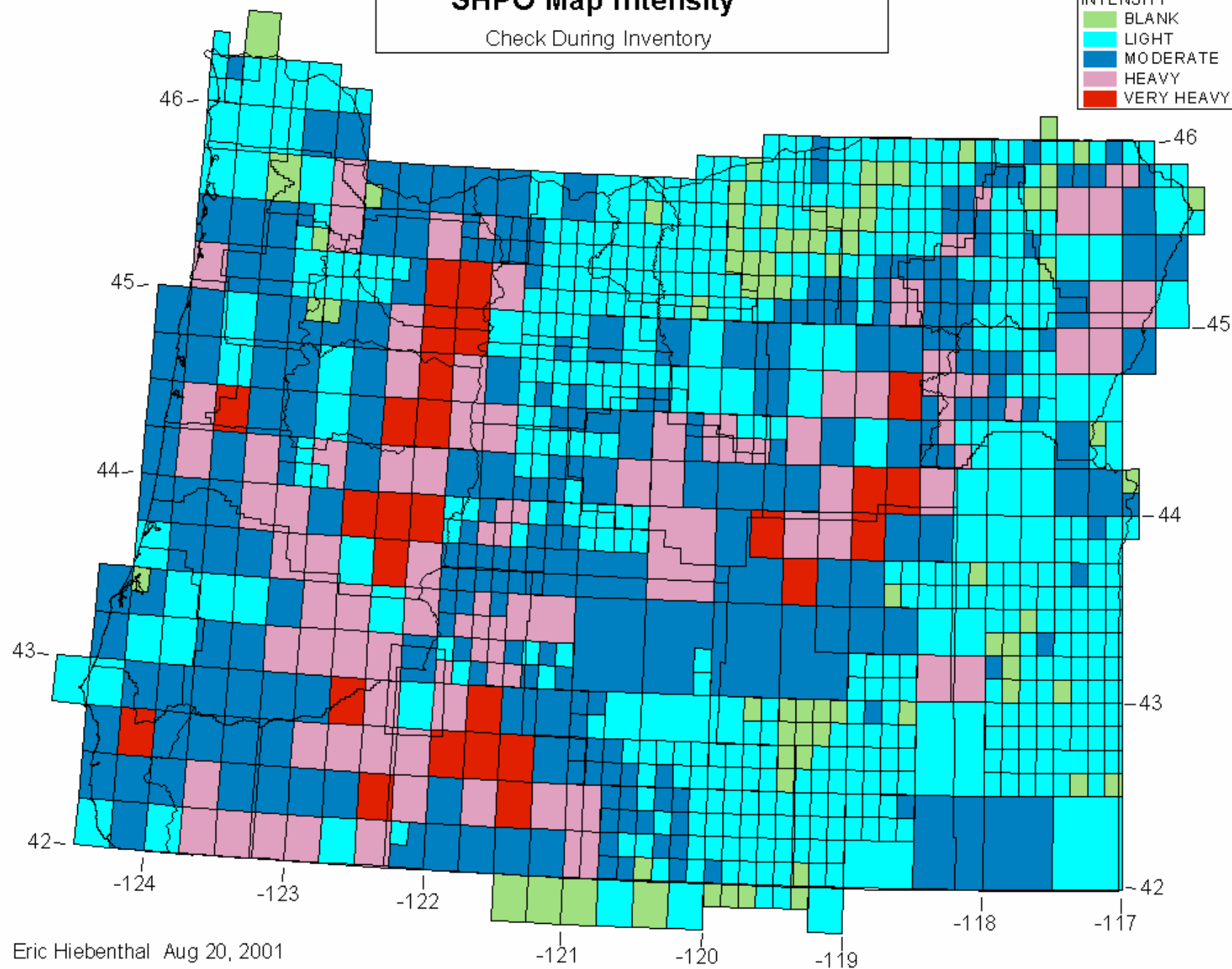
Inventory objectives and results

- Get a clear, or clearer, definition of what was at task.
 - Number of maps.
 - 970
 - Type of maps.
 - 7.5 min 24K, 15 min 62K, 30 min 63K, and others.
 - Condition of maps.
 - New maps to taped photocopies, most with very worn or torn edges .
 - Relative amount of information on maps
 - Map Intensity – The amount of data seen on the map, as well as its relation to the intricacy of the data displayed.

SHPO Map Intensity

Check During Inventory

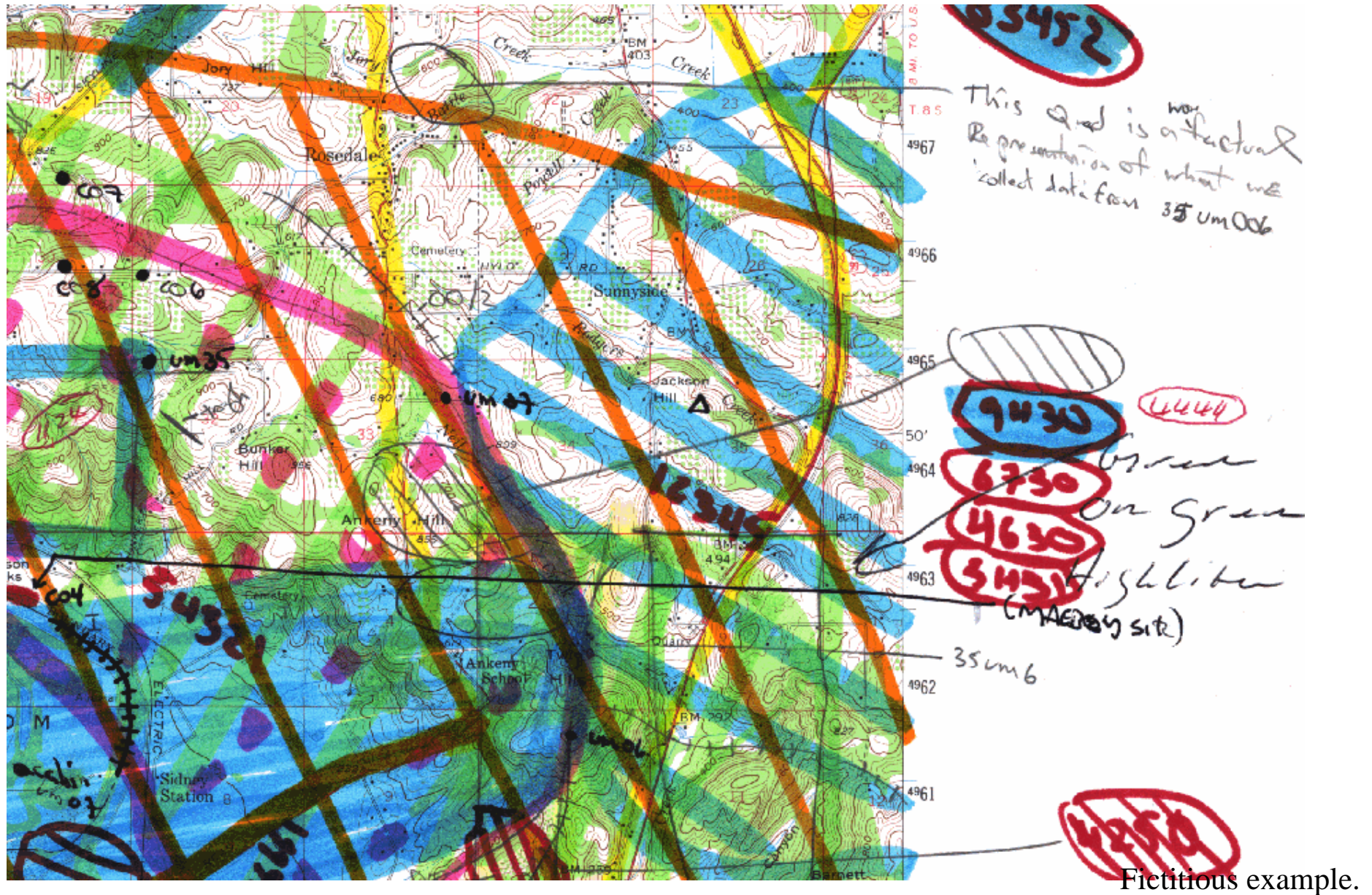
INTENSITY
BLANK
LIGHT
MODERATE
HEAVY
VERY HEAVY



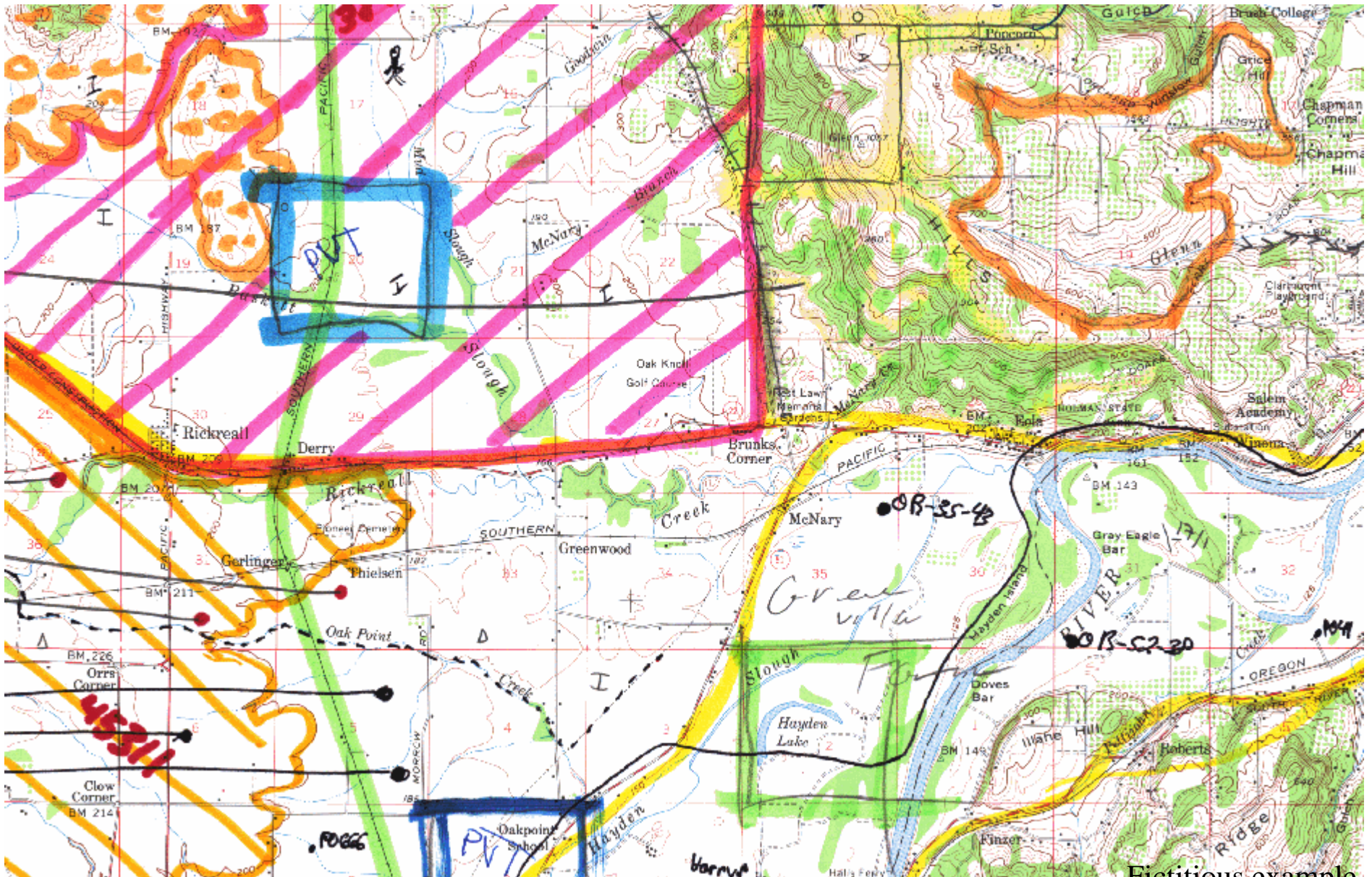
Eric Hiebenthal Aug 20, 2001

- Fictitious example.

Example of SHPO Map Set Cont.



Example of SHPO Map Set Cont.



Fictitious example.

Scanning

- Making a digital copy protects the investment.
- Removes the possibilities for loss of major work.
- Scanning is not without risk. Originals can become damaged.
 - Of the 970 there were 3 originals significantly damaged.

Scanning Process

- Scanning was preformed on a Contex scanner.
 - Wideimage software, Magnum 8050 color scanner with a 36” throat.
- Images were scanned at 300 DPI and index with 256 colors.
- Produced 42 GB of uncompressed TIFF images.
- Compressed in MrSID at 20:1 to a total of 5 GB.
- Able to delivery the compressed images on CD’s.
- Total time for scanning was 5 weeks.

Geo-rectification

- Adds value to the image and creates a functional data set.
 - Images can be combined together.
 - Images can be combined with other geographically oriented data.

Geo-rectification Process

- Rectification was completed in ER Mapper 6.2.
 - Arc8 could have been used also.
- Some images required additional work to correct construction of hard copy.
 - For maps that were taped together the digital image was split, rectified separately then merged back together.
- Final images were exported to TIFF and again compressed in MrSID.
- Able to deliver compressed images on CD.
- Total Time for Geo-rectification 26 weeks.

SHPO Scanning Project Work Flow Process Overview.
Thursday, June 13, 2002



Digitization

- Collect information in format that allows
 - Ease of use.
 - Legibility.
 - Gives the ability to perform queries on data.
 - Gives the ability to add or alter data.
 - Give ability to create new documents
manipulate data, combine with other digital
data, etc.

Data Quality Attributes

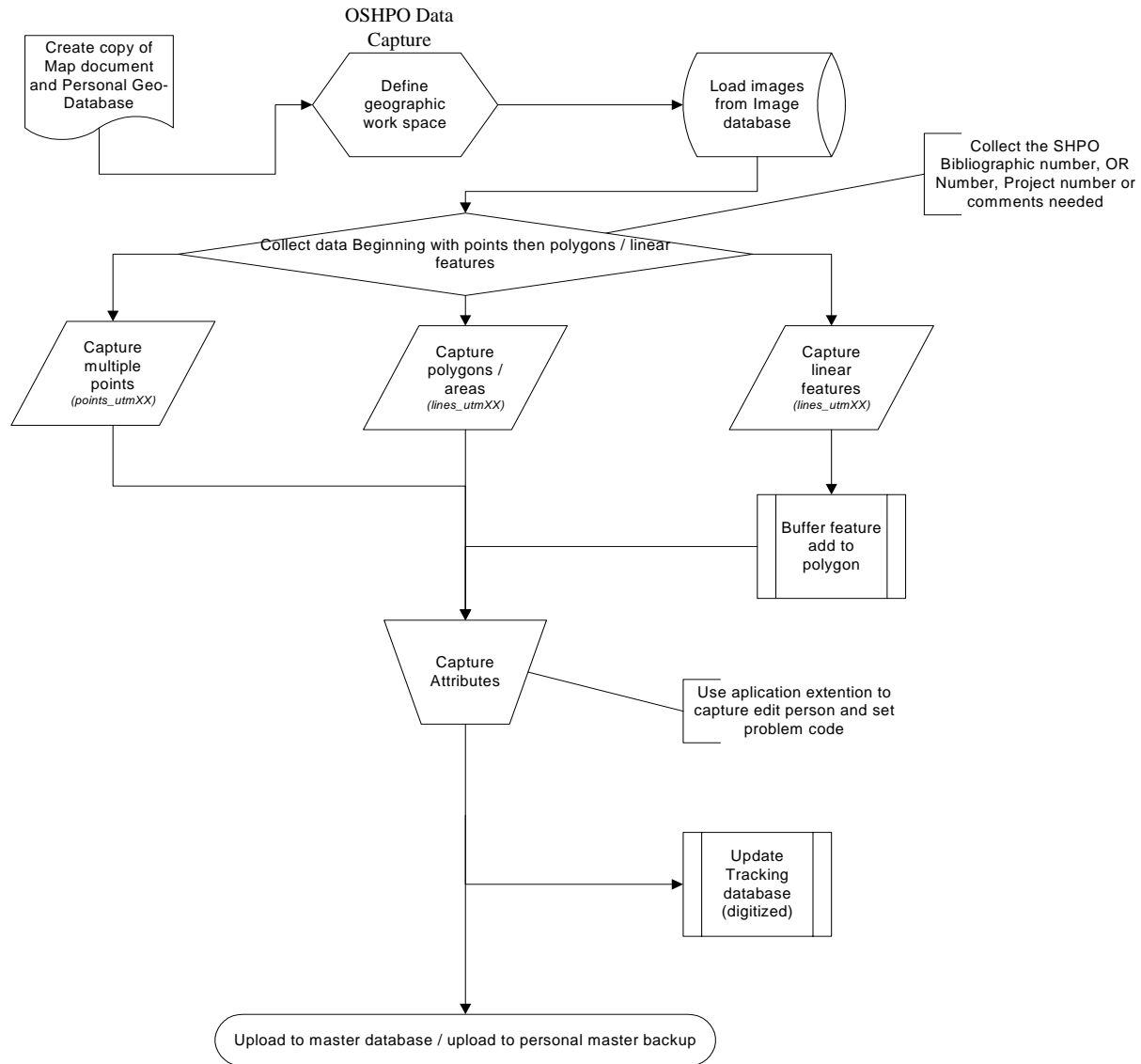
- **Data Source Text** (source)
- **Problem Code** (prob_code)
- **Problem Description Text** (prob_text)
- **Edit Date** (edit_date)
- **Editor Name** (editperson)
- **QC Date** (qc_date)
- **QC Person** (qc_person)

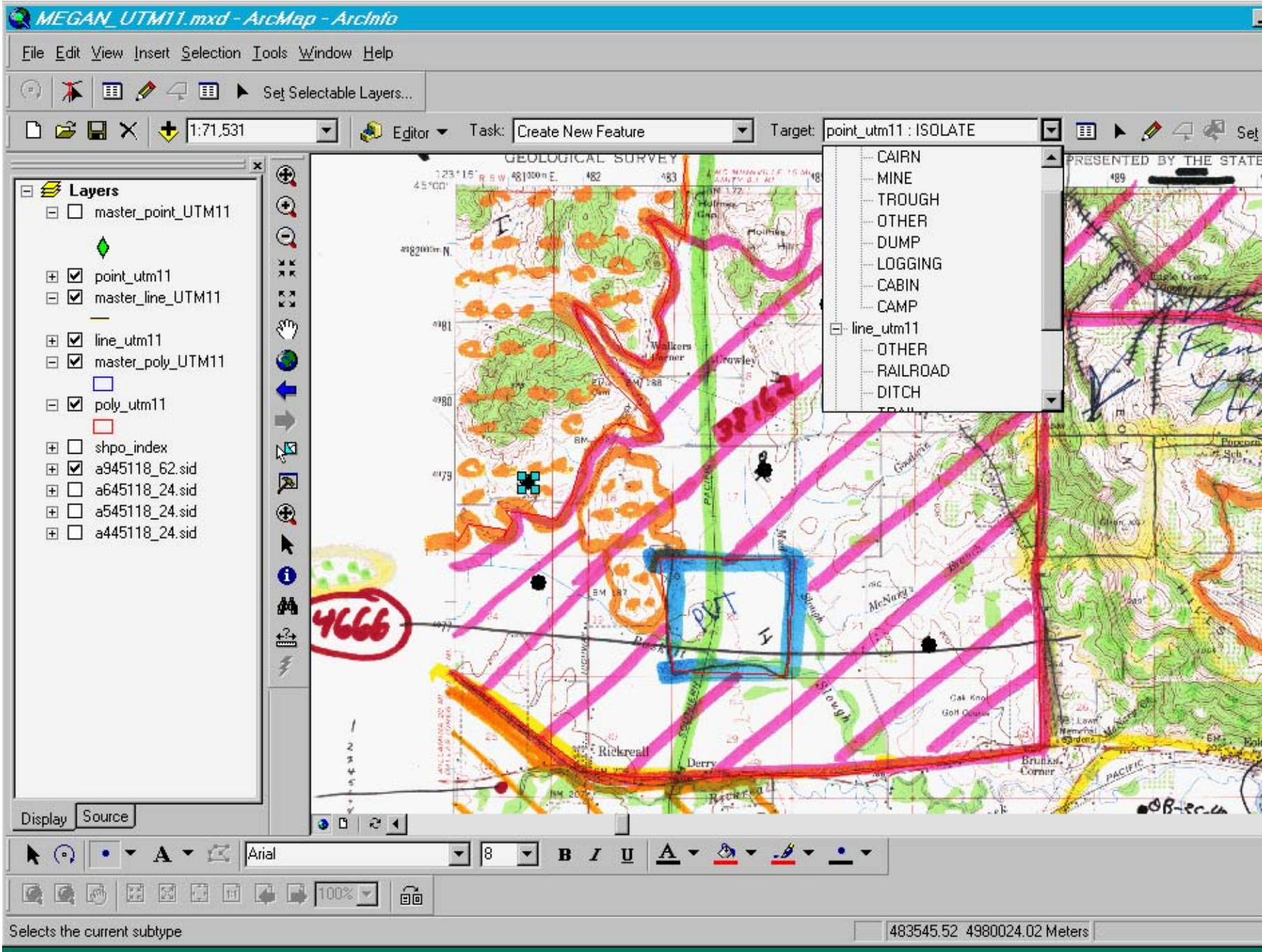
Data Content Attributes

- **Trinomial** (trinomial)
- **Oregon Historic Site Number** (or_number)
- **Agency Site Number** (ag_site_no)
- **Agency Project Number** (ag_proj_no)
- **Agency Survey Number** (ag_surv_no)
- **SHPO Bibliographic Number** (or_biblio)
- **Contractor Project Number** (contprojno)
- **Age Class Name** (age_class)
- **Entity Type Code** (type_code)
- **Cultural Resource Entity Comment** (comments)

OSHPO Data Capture

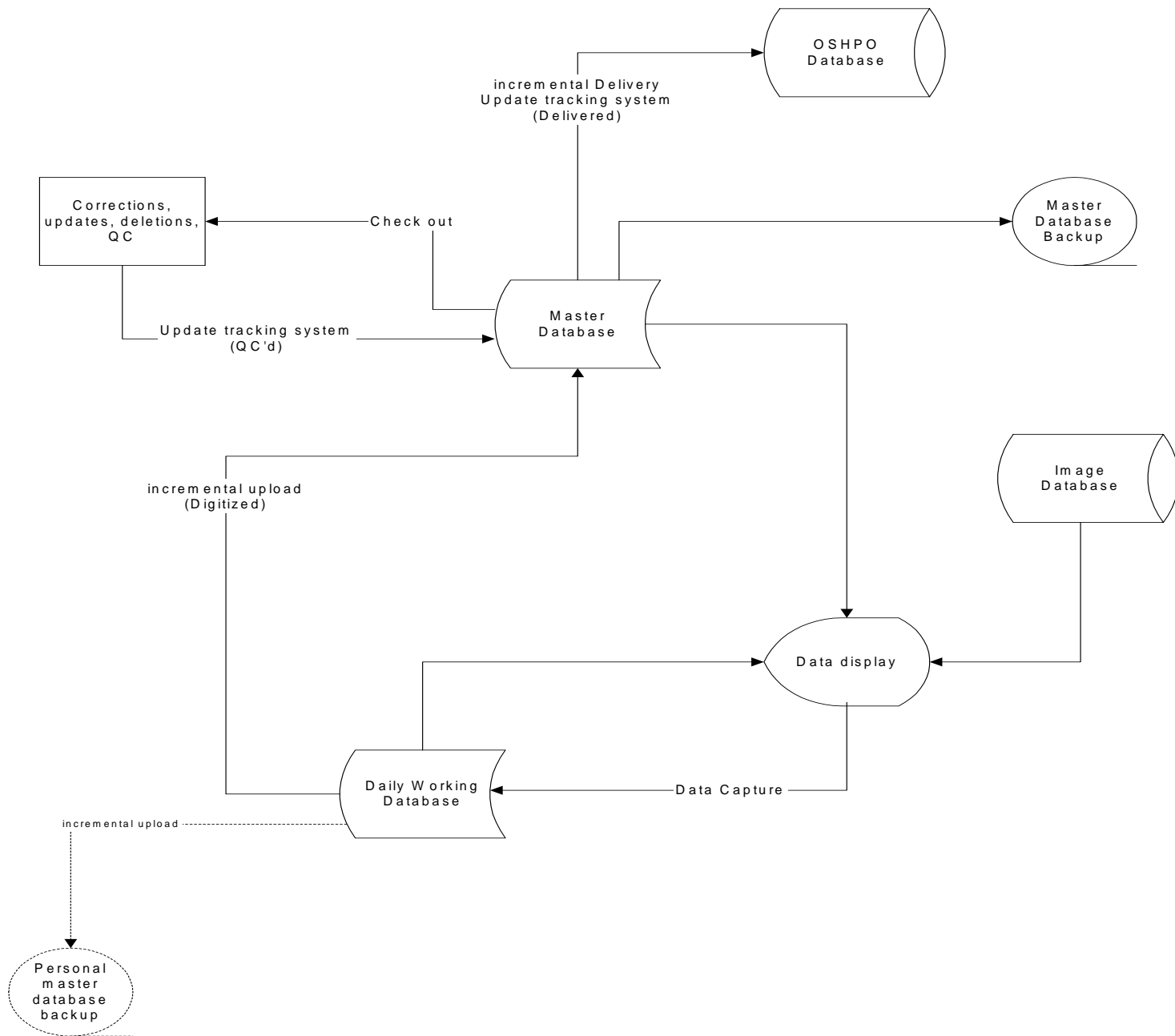
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OSHPO Data Control

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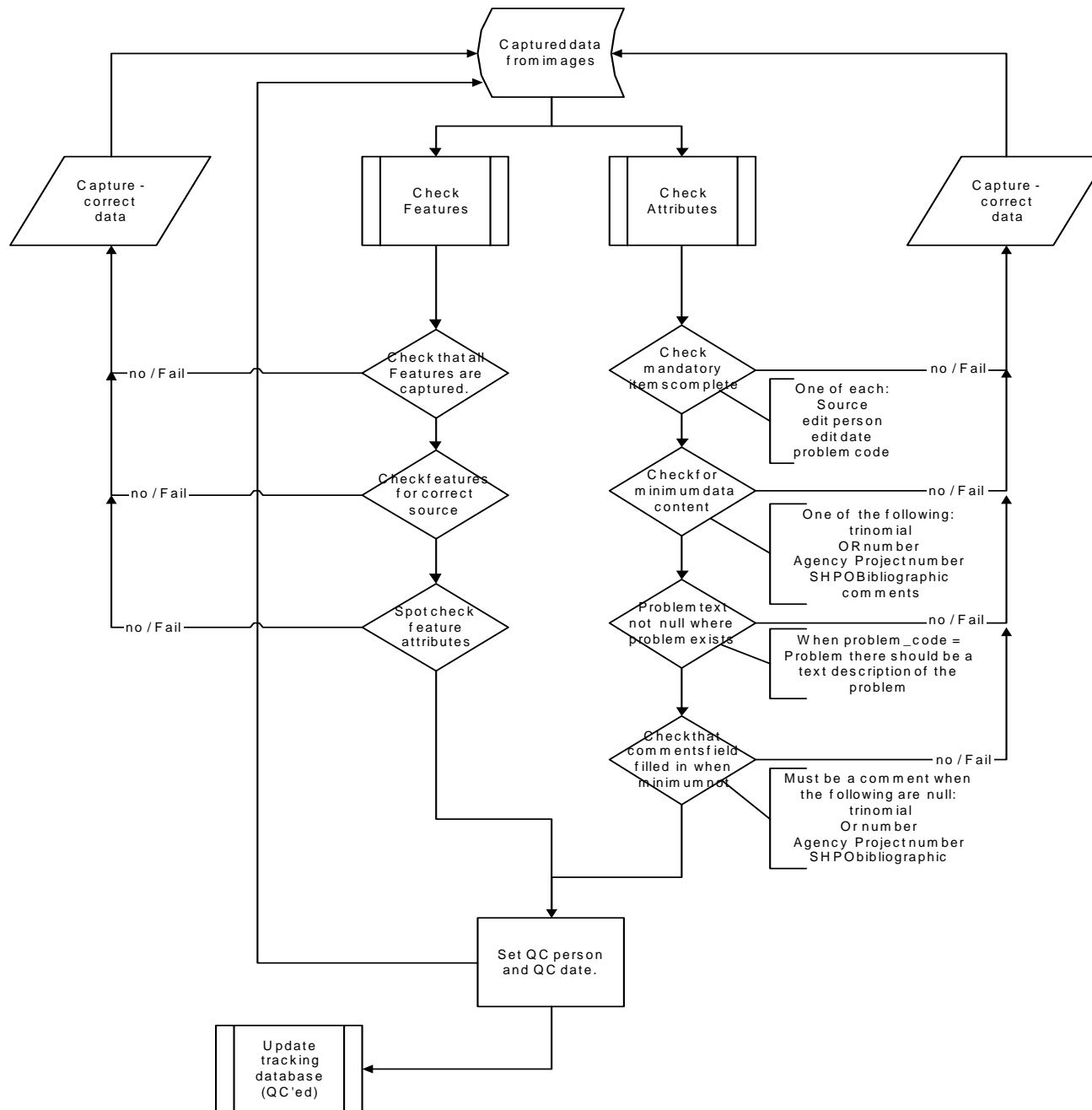


Data Quality Control

- We are relying heavily on the correct initial capture.
- Performing visual check that all possible features are captured.
- Performing queries on data to catch gross shortages of attribution.

OSHPO Data Q.C.

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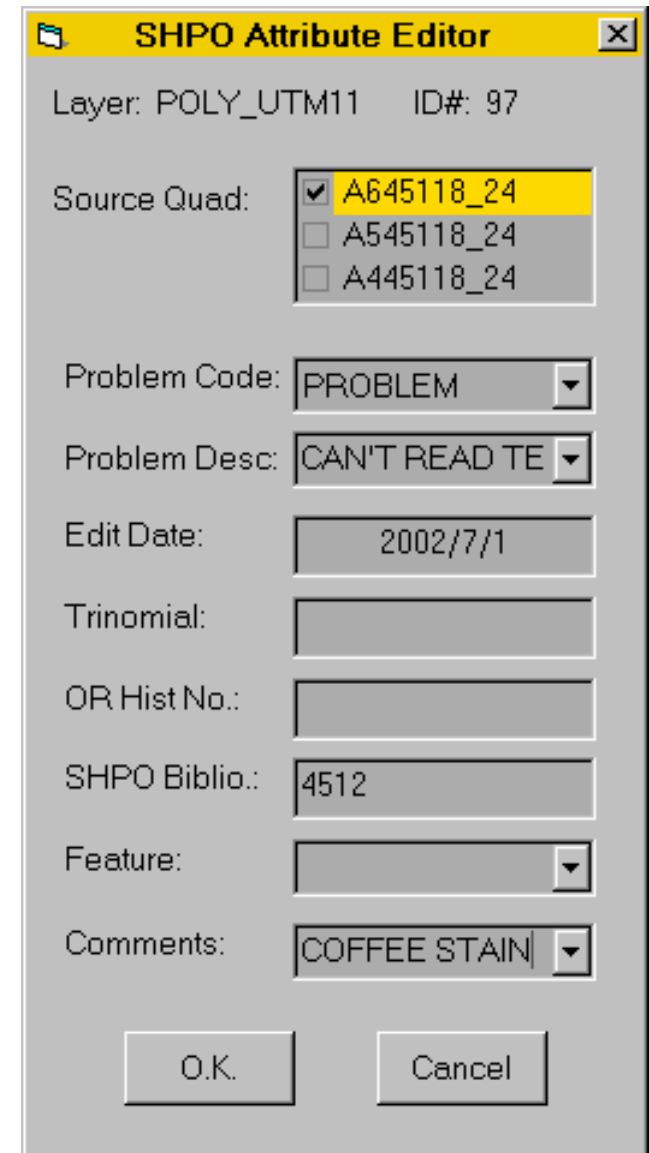


Tools

- Buffer wizard.
- Trace tool.
- Add image tool.
- Geo-database domains and subtypes.
- Geo-database class extensions.
 - Common attributed points.
 - Auto buffer line tool.
 - Auto attribution for polygons.

Extension Tool Example

- Source interactive.
- Problem tracking enforcement.
- Display of only fields of interest.
- Standard attributes automatically populated.

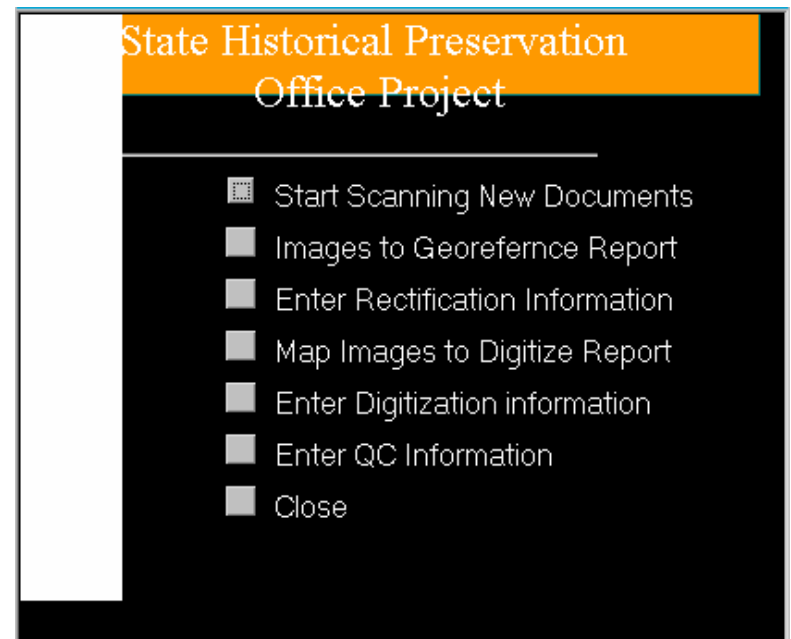


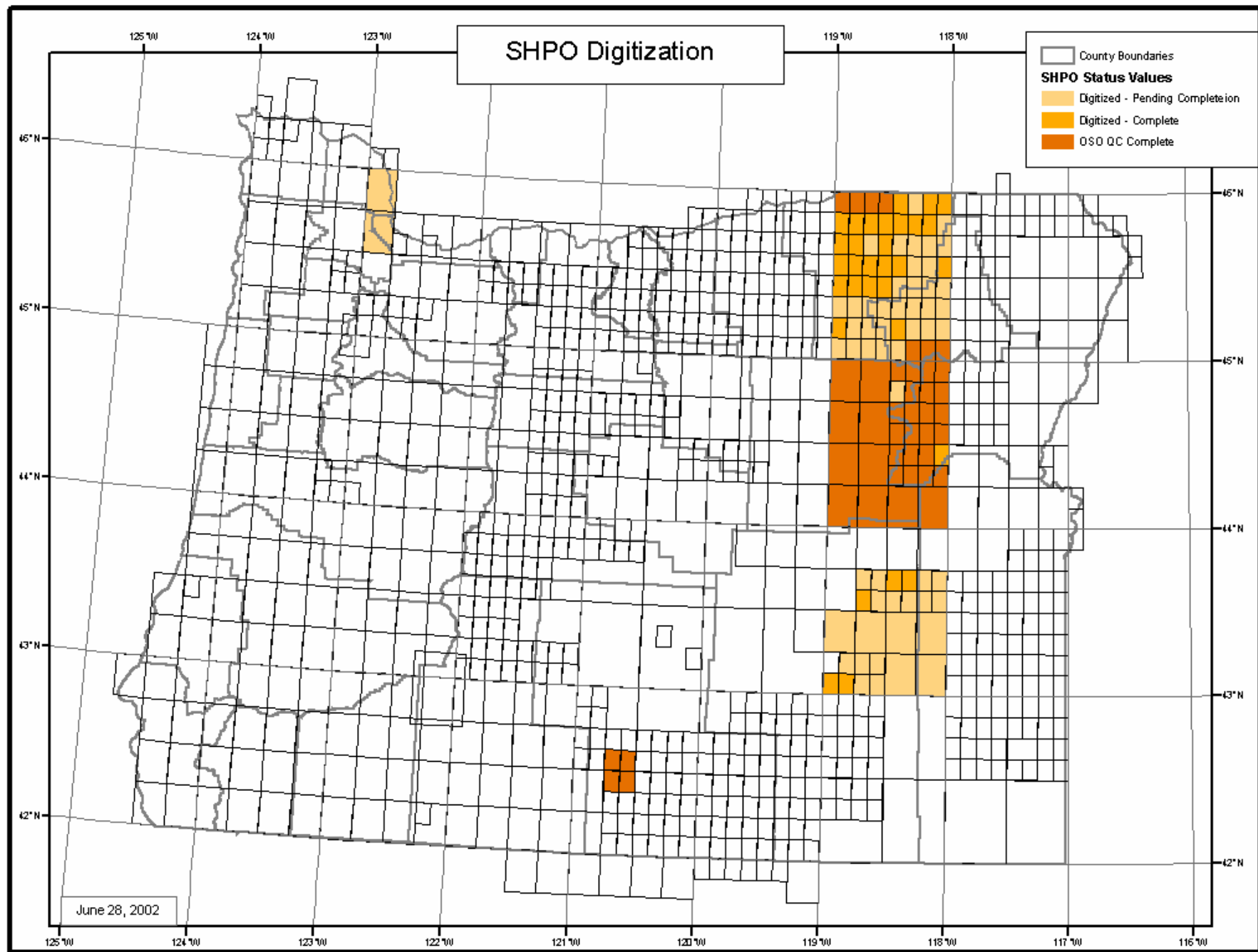
The screenshot shows a dialog box titled "SHPO Attribute Editor". It contains the following fields and controls:

- Layer: POLY_UTM11 ID#: 97
- Source Quad: A list box with three options: ☒ A645118_24, ☐ A545118_24, and ☐ A445118_24.
- Problem Code: A dropdown menu showing "PROBLEM".
- Problem Desc: A dropdown menu showing "CAN'T READ TE".
- Edit Date: A text box containing "2002/7/1".
- Trinomial: An empty text box.
- OR Hist No.: An empty text box.
- SHPO Biblio.: A text box containing "4512".
- Feature: A dropdown menu.
- Comments: A dropdown menu showing "COFFEE STAIN".
- Buttons: "O.K." and "Cancel".

Tracking

- Shpoentry table example.
 - Allows for one look status maps.
 - Enforces responsibility of quality of work.





Future of the data set

- Hot link to scans of reports.
- Test linking data to an experimental database.
- Additional integration phase with BLM digital data.